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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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STAAS & HALSEY LLP SUITE 700 1201 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005			EXAMINER BROWN, RUEBEN M	
			ART UNIT 2623	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 09/177,815	Applicant(s) KIM ET AL.	
	Examiner Reuben M. Brown	Art Unit 2623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 March 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 3/13/07 with respect to claims have been considered but are moot in view of the new ground(s) of rejection. Applicant argues on page 11, that examiner has not addressed applicant's argument that since the synchronous signal extracted in Cummins is discussed as being for overcoming the known problem of jitter, that it is improper to combine the reference with Bestler, for the purpose of combining the additional data of Bestler with the analog signal, as taught by the encoder 80 of Bestler. Examiner points out that this feature is now being relied upon by Tessier.

In particular Tessier, teaches that a locally generated signal such as graphics or text is overlaid on an incoming video signal, using a synchronous signal extracted from the instant video signal, see Abstract; col. 1, lines 50-67; col. 2, lines 31-67.

As for applicants arguments on page 15 against Devaney, with respect to claims 18-20, applicant argues that Devaney does not teach synchronizing the phases of the analog-digital signals. First of all, it is pointed out that the claims recite, 'selectively process...', in order to prevent jitter when changing between the analog to digital or vice versa. Clearly, Devaney is directed to switching between analog and digital signals, and may for example decode a digital stream in order to produce an analog feed, see col. 6, lines 7-62; col. 9, lines 25-30; col. 10, lines

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50-65. This technique meets the claimed limitation, in order to display the video signals on the screen in the appropriate manner.

As for Cummins, applicant argues that to avoid jitter in the A/D circuit is different from the claimed subject matter. Examiner points out that the motivation used in the secondary reference does not need to be identical with the motivation of the present invention, as long as the secondary reference teaches the claimed subject. Furthermore, in light of the recent KSR ruling, motivation is no longer required, in the 103 rejection. Notwithstanding these points, examiner asserts that as Cummins overcomes jitter (which adversely affects the resolution of the image, see col. 2, lines 22-34) in the A/D converter this solution is not limited the A/D converter, since as a result the resolution of the image is improved, which is consistent with the claimed invention.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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3. Claims 1-5, 7-12 & 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bestler (U.S. Pat # 5,638,112), in view of Tessier, (U.S. Pat # 5,146,336).

Considering amended claim 1, the claimed method of receiving an analog broadcasting signal and a digital broadcasting signal, comprising 'selecting one of a digital broadcasting channel and an analog broadcasting channel', is met by Bestler, which teaches a hybrid digital broadcast receiver that selectively tunes and receives either an analog or digital TV channel, see col. 2, lines 3-11.

The further amended feature of 'generating additional information for visually overlapping with a received video signal', is met by the operation of the OSD generator 66, which generates an on-screen display for overlying with a received video signal (Fig. 1; col. 3, lines 33-61 & col. 4, lines 26-32).

Bestler goes on to teach receiving an analog or digital signal, according to which channel is tuned. It is taught that if a digital broadcasting channel is selected, then a digital broadcasting signal is received, and the digital demodulator 34 processes the received digital broadcasting signal, col. 2, lines 19-26, (Fig 1). The recited feature of 'separating the digital broadcasting signal into an MPEG processed video signal and MPEG processed audio signal' is met by the operation of the MPEG decoder 40, col. 2, lines 36-45.

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The additionally claimed feature of 'encoding the MPEG processed video signal separated from the broadcasting signal reads on the operation CV encoder 80'. Furthermore, Bestler teaches that the mixer 82 combines processed MPEG data with an overlay, and additional information, (the combination of which is transferred to the channel modulator 56) which reads on the further amended claimed feature of, 'transmitting the generated additional information overlapped with the processed video signal separated from the digital broadcast signal in accordance with the encoding of the MPEG processed signal'.

As for the further recited feature of, 'if an analog channel is selected, then receiving the analog broadcasting signal' is processed by the tuner 14, col. 2, lines 3-8. Bestler meets 'separating the analog broadcast signal into analog broadcast audio & analog broadcast video signal', col. 2, lines 40-65, which teaches that the analog audio is provided to the MTS decoder 44, whereas the analog video is provided to the CV decoder 72. Regarding the claimed step of 'extracting a synchronous signal from the received analog broadcasting signal', Bestler teaches that a composite analog signal, CV (which by definition includes synchronous signals) is output by the analog demodulator 28. Next, the YUV components are digitized and fed into the normalizer 70, by the A/D converter 74.

However, Bestler does not explicitly teach 'extracting the synchronous signals from the received analog signal, encoding the additional information according to the extracted synchronous signal'. Nevertheless, Tessier teaches extracting a sync signal from a received composite video signal and using the extracted sync signal in order to accurately insert or

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overlay a locally generated signal onto the instant received composite video signal, (Abstract; col. 2, lines 31-67; col. 3, lines 17-20; col. 3, lines 31-67; col. 5, lines 41-55 & col. 6, lines 42-50). It would have been obvious for one of ordinary skill in the art at the time the invention was made, to modify Bestler to extract a synchronous signals from an analog input signal for the benefit of using the synchronous signal as a guide when merging a locally generated signal (such as graphics or text) with an received video signal, see col. 1, lines 25-60 & col. 4, lines 41-55, so that the insert signal may be viewed with absolute stability, as taught by Tessier.

Regarding the newly amended claimed feature of, 'analogizing the encoded additional information', Bestler shows that the OSD data is supplied to a D/A converter 76, (col. 4, lines 12-20), which reads on the claimed feature.

As for the further claimed features of, 'transmitting the overlapped with the analogized additional information', the claimed feature is met by the combination of Bestler (col. 4, lines 25-34) & Tessier (col. 2, lines 52-67 & col. 5, lines 41-55). Likewise, the additionally claimed feature of, 'transmitting the analog broadcasting audio signal separated from the analog broadcasting signal', is met by Bestler, col. 2, lines 30-67, analog MTS decoder 44.

Considering claims 2-3, Bestler teaches that the digital overlay may be converted to analog; see col. 4, lines 12-20. As for the feature of only converting to analog in response to an analog channel selection, the operation of the control signal K_a , which is input into mixer 82,

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corresponds with the subject matter, col. 4, lines 20-30. Bestler teaches that the OSD may be alternatively be used for mixing with a received analog TV signal, col. 3, lines 55-61.

Considering claim 4, Bestler teaches adjusting the value of control signal K_d , so that the graphics and text images overlay or not overlay on the video signals, col. 3, lines 35-52, which corresponds with the claimed transparency.

Considering claim 5, the features of claim 5, which correspond with subject matter mentioned above in the rejection of claim 1, are likewise treated. Bestler teaches a hybrid digital broadcast receiver that selectively tunes and receives an analog or digital TV channel; see col. 2, lines 3-11. The claimed 'controller to determine which of an analog channel or digital channel is selected and generate a plurality of control signals' is met by the operation of the microprocessor 18, in conjunction with the IF splitter 22, which splits the signals onto either an analog processing path or digital signal processing path dependent upon an analog channel or digital channel is tuned, respectively; col. 2, lines 3-5.

Particularly, Bestler teaches receiving an analog or digital signal according to which channel is tuned. If an analog channel is selected/received, then the analog demodulator 28 processes the received analog signal. However, if a digital channel is selected/received, then the digital demodulator 34 processes the digital signal.

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The additional information process unit to generate additional information according to a first control signal is met by the OSD generator 60; col. 3, lines 32-62. Fig 1 shows a control signal from the microprocessor 18, to the OSD 60. The claimed video encoder for encoding processed MPEG video signal and the additional information into an encoded analog signal is met by the operation of the mixer 64 (which combines the MPEG video and additional data, col. 3, lines 44-47) and the NTSC encoder 80 (which creates an NTSC format analog video signal), col. 4, lines 18-23.

The claimed video mix unit to mix analog video signal from the air tuner and the encoded analog video signal is met by mixer 82, col. 4, lines 25-30. The D/A to convert MPEG audio to MPEG processed analog is met by the D/A 42. The audio selection unit to select and transmit MPEG processed analog signal and analog audio signal to a third control signal is met by composite audio encoder 52, col. 3, lines 5-10.

Considering claim 7, see Bestler, col. 4, lines 29-34.

Considering claims 8 & 14, the CV decoder 72 separates the analog signal into YUV format, which then transmits the analog signal to the A/D converter 74.

Considering claims 9-10 & 16, Bestler teaches that graphics and text may be from the generator, other than received and stored in RAM, col. 4, lines 29-32.

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Considering claim 11, the claimed elements of digital broadcasting receiver that correspond with subject matter mentioned above in the rejection of claim 5, are likewise treated.

Considering claim 12, the claimed feature reads on the D/A 42, in Bestler.

Considering claim 15, the claimed feature reads on the OSD generator 60.

4. Claims 6, 13 & 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bestler, & Tessier as applied to claim 5 above, and further in view of Achiha, (U.S. Pat # 4,530,004).

Considering claims 6, 13 & 17, Bestler does not teach separating the luminance/chrominance after the mixer 82. However, Achiha teaches the very technique of luminance/chrominance separation data being processed and transmitted to the TV for display, (Fig. 1; col. 4, lines 27-36 & col. 5, lines 55-65). It would have been obvious for one of ordinary skill in the art at the time the invention was made, to provide luminance/chrominance separation of the mixed signal at least, for benefit reducing dot crawl and producing a high quality signal for display on a high resolution color monitor, as taught by Achiha, col. 2, lines 35-50; col. 7, lines 1-17.

4. Claims 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Devaney, in view of Cummins.

Considering amended claim 18, the claimed broadcast receiver which receives a digital broadcasting signal and an analog broadcasting signal, comprising a tuning unit to 'selectively receive a broadcasting signal, including a second digital broadcast signal after a first analog broadcast has been received' or 'a second analog broadcast signal after a previously tuned digital broadcast signal has been received', is met by the disclosure of Devaney which teaches that analog broadcast and digital broadcast signals may be received and displayed by the system, see Abstract; col. 4, lines 24-60. Devaney teaches that while channel surfing, the user can tune/receive analog/digital broadcast signals in succession, col. 5, lines 10-30.

As for the claimed 'processing unit to process the second digital or second analog broadcasting signals in accordance with the selection by the tuning unit, and to synchronize phases of the second digital and first analog broadcasting signals upon the tuning unit changing selection between the digital and analog broadcasting signals', even though Devaney clearly is enabled simultaneously receive and display both analog and digital video signals, see Abstract; col. 9, lines 5-17; col. 10, lines 19-50. Devaney also teaches that in order to display these signals, the necessary control information must be extracted, but doesn't explicitly cite synchronous data from a video signal (col. 5, lines 52-56). Nevertheless, Cummins teaches a method of extracting

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synchronous data from a video signal, such as vertical and horizontal sync pulses, in order to operate the system at a fixed sampling rates, (i.e., the rate detected by pulse detector 16), Abstract; col. 4, lines 61-67. Specifically, the reference discloses separating the horizontal sync or vertical sync signals from the incoming broadcast signal, and using this information to adjust the signal to a digital form. It would have been obvious for one of ordinary skill in the art at the time the invention was made, to modify Cummins to extract horizontal sync or vertical sync pulse signals from an analog input signal for the well-known benefits of avoiding overflow of video into buffers, which prevents distortion, (i.e., jitter), see col. 3, lines 62-64; col. 1, lines 25-40; col. 2, lines 20-40 & col. 9, lines 50-56.

Considering claim 19, Cummins is particularly related to detecting the synchronous pulses from analog input signals, which reads on the claimed subject matter.

Considering claim 20, the claimed features that correspond with subject matter mentioned above in the rejection of claim 18, are likewise analyzed. As for the additional claimed feature of a video mix unit to selectively input the output of the processed digital broadcasting signal with additional information and the processed analog broadcasting signal with the additional information, the disclosure of Devaney specifically discusses merging the additional information data with the analog or digital broadcast images, see Fig. 15 & col. 7, lines 50-65.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's claims.

- A) Furhata Teaches synchronous signal separation from an analog signal.
- B) Kline Teaches Y/C separation.
- C) Nishio Receives analog and digital signals and separates and then synthesizes additional data with video data using the color burst signal extracted from the video signal.

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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Any response to this action should be mailed to:

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or faxed to:

(571) 273-8300, (for formal communications intended for entry)

Or:


(571) 273-7290 (for informal or draft communications, please label
"PROPOSED" or "DRAFT")

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Reuben M. Brown M. Brown whose telephone number is (571) 272-7290. The examiner can normally be reached on M-F(8:30-6:00), First Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Kelley can be reached on (571) 272-7331. The fax phone numbers for the organization where this application or proceeding is assigned is (571) 273-8300 for regular communications and After Final communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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